

Solar Turbines

A Caterpillar Company

COGENERATION PROJECT

Powering the Global Energy Demand

Dell Children's Medical Center of Central Texas

Owner/Operator:

Austin Energy

EPC: Burns & McDonnell

Location: Austin, Texas

Installed: 2007



Dell Children's Hospital was looking for an innovative and environmentally friendly approach to their energy program. At the same time, the hospital wanted to improve the reliability of their electricity and reduce power transmission losses. There was one other goal - to become the first hospital in the world to achieve platinum certification under the Leadership in Energy & Environmental Design (LEED) program sponsored by the United States Green Building Council.

Dell, Austin Energy, the local municipal utility, and Burns & McDonnell, a full-service engineering, procurement and construction firm, collaborated to design a combined heat and power (CHP) plant module to provide the hospital with power, chilled water and steam.

The resulting district energy plant utilizes the state-of-the art 4.6 MW *Mercury*™ 50 recuperated gas turbine generator set as the heart of the plant.

The *Mercury 50* was chosen because it provides maximum system efficiency, operational flexibility, reliability, and an environmentally friendly design, with a low carbon footprint that exceeds requirements of the Texas Commission on Environmental Quality and the City of Austin's Green Building Standards. The *Mercury 50* CHP system generates electricity and thermal energy from the same fuel source, reducing the amount of fuel burned, which, in turn, reduces air pollution. In addition, the plant makes use of reclaimed water for cooling.

Along with the *Mercury 50*, a heat recovery steam generator (HRSG), packaged chiller plant and boiler, and absorption cooling and thermal energy storage, make up this first of its kind combined heat and power energy plant in the state of Texas. The energy plant produces all of the electricity, chilled water, and steam necessary to provide

the hospital 100% of its energy needs, even if the local utility grid experiences an outage.

As to achieving LEED Platinum? In January 2009, Dell Children's Medical Center made green building history by becoming the first hospital in the United States to receive the prestigious LEED Platinum certification. LEED Platinum is the Green Building Council's highest award. Solar is proud to be part of this sustainable green building project. The on-site *Mercury 50* cogeneration system supported the Energy and Atmosphere scoring criteria. It is 75% more efficient than a coal-fired plant, helping to reduce emissions significantly.

For more information on this project and how Solar Turbines can provide a sustainable, effective solution to meet your energy needs, contact:

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